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EXAMINER	
LY, ANH VU H	

ART UNIT	PAPER NUMBER
2667	18

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/345,969	FROUIN, LAURENT	
	Examiner	Art Unit	
	Anh-Vu H Ly	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☒ Claim(s) *8-10,20-22 and 207* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-12,14-16, 20-25, 29-31, 36-37, 71-85, 87, 103,132, 175-187, 189, 201, 203, 207 and 211-244.

Continuation of Disposition of Claims: Claims rejected are 1-7,11,12,14-16,23-25,29-31,36,37,71-85,87,103,132,175-187,189,201,203 and 211-244.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 09, 2004 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 5-6, 11, 23-25, 29-31, 36, 71-81, 83-85, 87, 103, and 210 are rejected under 35 U.S.C. 102(e) as being anticipated by Bertin et al (US Patent No. 6,400,681).

With respect to claims 1-2, 5, 25, 29-31, 71-72, 75, 79-81, 83, 85, 87, and 210, Bertin discloses (col. 16, lines 14-20 and Fig. 2) a high-speed packet switching network supporting different routing modes such as connection-oriented and connectionless. Hereby, bandwidth is reserved for the connection-oriented and bandwidth is not reserved for the connectionless (communication devices perform communications in a connected mode or a non-connected mode). Bertin discloses (col. 11, lines 44-67) that a connection request is specified by the user via a set of parameters including origin and destination network address and data flow characteristics such as the bit rate and burstiness (an operation of transmitting on the path a message including information representing an application requirement for transmission in the connected mode on that path). A bandwidth reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node (for at least one of the communication devices, which is to effect a transmission in the connected mode, an information operation during which the communication device broadcasts, on the network, an item of information representing a passband necessary for the transmission in the connected mode). Bandwidth reservation replies from transit nodes and end node generate either a call acceptance or a call reject. A link metric update process updates, in case of a call acceptance, the modified link metrics. This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast algorithm (a passband allocation operation of allocating the passband for connection-mode transmissions based on the item information, wherein the passband allocation operation is performed in coordination with all communication devices using the information operation). Bertin discloses

(col. 11, lines 1-5) that the total bandwidth use on the link between nodes is computed by adding the total reserved bandwidth and the measure bandwidth used by non-reserved traffic. This implies that the measure bandwidth used by non-reserved traffic (second allocation operation) is part of the bandwidth which is not allocated for the connected-mode transmissions. Further, since it is non-reserved bandwidth, no cooperation is needed between the communication devices in the network, therefore, the second allocation operation is performed independently (a second allocation operation of allocating for non-connected mode transmissions all or part of the passband not allocated for the connected-mode transmissions, for each communication device that is to effect a transmission in the non-connected mode, wherein the second allocation operation is performed independently from other communication devices in the network). Bertin discloses a congestion control set up adjusts, if the call is accepted, the network connection characteristics (an adjustment operation of adjusting the allocated passband to avoid congestion in the network).

With respect to claim 3, Bertin discloses (col. 11, lines 44-67) that a Congestion Control Setup adjusts, if the call is accepted, the network connection characteristics, including source, destination, and transit nodes (a flow control operation performed by each of the intermediate communication devices on the path followed by the item of information).

With respect to claims 6, 11, and 36, Bertin discloses (col. 11, lines 44-67) that a connection request specified by the user via a set of parameters including origin and destination network address, and data flow characteristics such as bit rate and burstiness (priority levels).

With respect to claim 23, Bertin discloses (col. 15, lines 1-4) that reserved network connections are capable of providing quality of service. Hereby, it is known that voice communications are sensitive to delay and it is part of the QoS, therefore voice is transmitted in connected mode (real-time traffic, predictive or guaranteed, is transmitted in the connected mode).

With respect to claim 24, Bertin discloses (col. 15, lines 5-14) that the non-bandwidth reserved traffic (elastic traffic) is delayable, has a low average bandwidth, may last a very short time and its burstiness characteristics may not be known (elastic traffic is transmitted in non-connected mode).

With respect to claim 73, Bertin discloses in Fig. 4, a routing database comprising paths and associated links (including a table updating operation of updating a load table stored by each communication device in the network).

With respect to claim 74, Bertin discloses (col. 11, lines 44-67) that a path selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database (wherein during the availability estimation operation, values stored in the load table of a communication device that has at least one item of information to be transmitted are taken into account).

With respect to claims 76-77, Bertin discloses in Fig. 6, topology database link characteristics including total capacity, reserved fraction, total bandwidth used, etc...(wherein the table updating operation includes an operation of storing in memory a passband available for each link on a path leaving a communication device under consideration).

With respect to claim 78, Bertin discloses in Fig. 8, a search path procedure for setting up a connection (an operation of checking an availability of a path to be reserved).

With respect to claim 84, Bertin discloses (col. 11, lines 44-67) that a link metric update process updates, in case of a call acceptance, the modified link metrics (updating the load table). This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast algorithm. This means that all nodes, whether resided within the path of communications or not resided within the path of communications, received the broadcast information (broadcasting the information representing the passband requirement to communication devices outside the path).

With respect to claim 103, Bertin discloses in Fig. 2, a high-speed packet switching network supporting connectionless and connection-oriented transmissions. As shown in Fig. 2, a number of computers are used as servers and workstations in communications (computer comprising a communication device).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 4 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681).

With respect to claims 4 and 82, Bertin discloses (col. 11, lines 44-67) a Congestion Control Setup adjusts the network connection characteristics once the call is accepted. Bertin does not disclose that flow control operation is performed in accordance with IEEE 1355. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt a method of flow control operation in accordance with IEEE 1355 in Bertin's systems, since IEEE 1355 is a well-known standard.

4. Claims 7 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) in view of Bertin et al (US Patent No. 5,940,372). Hereinafter, referred to as Bertin'681 and Bertin'372.

With respect to claims 7 and 37, Bertin'681 discloses a communications system supporting different routing modes such as connectionless and connection-oriented transmissions. Bertin'681 does not disclose that a priority level is allocated to transmission in non-connected mode. Bertin'372 discloses (col. 14, lines 23-26) that the lowest delay priority (a priority level) is assigned to non-reserved traffic and the networks drop non-reserved packets

when their buffer overflows at intermediate links. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a method of assigning lowest delay priority to non-reserved traffic in Bertin'681's system, as suggested by Bertin'372, since path transfer delay and loss probability are not part of the quality of service guaranteed to non-reserved connections.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) in view of Chong et al (US Patent No. 6,501,731).

With respect to claim 12, Bertin discloses (col. 11, lines 44-67) that a connection request specified by the user via a set of parameters including origin and destination network address, and data flow characteristics such as bit rate and burstiness (priority levels). Bertin does not disclose wherein each priority level is associated with a list of virtual channels successively used. Chong discloses in Fig. 4, a basic link list structure associated with multiple traffic shapers whereby, each traffic shaper includes two VC pointers, one for a high priority VC list and the other for a low priority VC list. The two VC pointers are programmed by the local microprocessor within a VC pointer register. In an alternate, only one VC list is used. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the priority level for the list of virtual channels in Bertin's system, as suggested by Chong, to schedule data transmissions.

6. Claims 14-16 and 203 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) and Chong et al (US Patent No. 6,501,731) in view of Vargo et al (US Patent No. 6,356,545).

With respect to claims 14-16 and 203, Bertin discloses in Fig. 2, a high-speed packet switching network supporting connectionless and connection-oriented transmissions. Bertin does not disclose a traffic parameter determination operation of determining a traffic parameter for a size of packets, a number of packets, period available for sending packets based on the load of the network. Vargo discloses (see Abstract) a method of permitting dynamic packet-to-packet change in codec (number of packets and period available for sending packets) and varying the packet size (size of packets) to adjust for Internet conditions (load of the network). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of having varied packet size, varied transmission rates and speed in Bertin's system, as suggested by Vargo, to accommodate and efficiently manage data transmissions under changing network conditions.

7. Claims 132, 175-187, 189, 201, and 211-244 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) in view of Vargo et al (US Patent No. 6,356,545).

With respect to claims 132, 175-182, 185-186, 189, 201, 211, 225, 226, 229, and 239-240, Bertin discloses in Fig. 4, a routing database structure for use in the high-speed packet switching network, Fig. 2, including the path characteristics and link characteristics (storing a load table that includes information relating to a load on each link in the network). Bertin

discloses (col. 11, lines 44-67) that a connection request is specified by the user via a set of parameters including origin and destination network address and data flow characteristics such as the bit rate and burstiness (determining a passband requirement for the transmission of information in a connected mode for establishing a connection intended for transmission of the information in the connected mode). A path selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database (determining any path available for transmission based on the load table for establishing the connection of the connected mode). A bandwidth reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node (transmitting information representing the passband requirement to a following communication device on the path when an available path is determined). Bandwidth reservation replies from transit nodes and end node generate either a call acceptance or a call reject. A link metric update process updates, in case of a call acceptance, the modified link metrics (updating the load table). This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast algorithm. This means that all nodes, whether resided within the path of communications or not resided within the path of communications, received the broadcast information (broadcasting the information representing the passband requirement to communication devices outside the path). Bertin discloses a congestion control set up adjusts, if the call is accepted, the network connection characteristics. However, Bertin does not disclose an operation of varying the size of data packets to be transmitted on the network based on a load on the path and the transmission rate of

the packets on the path performed by a communication device that is source of information to be transmitted in the connected mode. Vargo discloses (see Abstract) a method of permitting dynamic packet-to-packet change in codec (varying the transmission rate of the packets) and varying the packet size (varying the size of data packets) to adjust for Internet conditions (load on the path). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of having varied packet size and varied transmission rate in Bertin's system, as suggested by Vargo, to accommodate and efficiently manage data transmissions under changing network conditions.

With respect to claims 212, 216, and 218, Bertin discloses (col. 11, lines 44-67) that a bandwidth reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node (an operation of transmitting information representing the application requirement for the transmission in the connected mode in order to transmit the passband requirement to the following communication device on the path).

With respect to claim 213, Bertin discloses (col. 11, lines 44-67) that a connection request is specified by the user via a set of parameters including origin and destination network address and data flow characteristics such as the bit rate and burstiness. A path selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database (an operation of determining communication parameters depending on the application requirement).

With respect to claim 214, Bertin discloses (col. 11, lines 44-67) a method for setting up a connection for data transmission between the origin and the destination in a connection-oriented mode. Such communication takes only a period of time for data transmissions, therefore, once the communication finishes, the reserved bandwidth on the links is released by updating the topology database of each node in the network by receiving the broadcast message from the origin; same method is applied when setting up the connection, a broadcast message is generated and forwarded to all nodes in the network indicating such bandwidth has been reserved, therefore each node in the network updates its topology database (an operation of broadcasting information representing release of the connection to all communication devices in the network so that each communication device updates a load table for each link in the network).

With respect to claims 215 and 242, Bertin discloses (col. 11, lines 44-67) that a path selection process determines a path using parameters provided by the Topology Database (an operation of determining a whole of a path intended to be followed by the information to be transmitted in the connected mode for establishment of the communication).

With respect to claims 187, 217, and 241, Bertin discloses (col. 11, lines 44-67) that a bandwidth reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node. Herein, the transit nodes and the destination node are intermediate devices and destination device and part of the spanning tree (an operation

of causing the information representing the passband requirement to follow a spanning tree for the network in which at least half the tree's leaves are intermediate communication devices or a destination communication device).

With respect to claims 184, 219-223, and 238, Bertin discloses in Fig. 4, a routing database comprising paths and associated links (an operating of storing a reference concerning each path that includes the link and which is associated with a connection in each load table).

With respect to claim 224, Bertin discloses in Fig. 8, a search path procedure for setting up a connection (an operation of choosing a path whose availability is highest in order to determine a path).

With respect to claims 227 and 234, Bertin discloses in Fig. 1, a method for setting up a connection in the packet switching network wherein bandwidth is reserved for the connection (an operation of effecting each transmission of information by packet switching).

With respect to claim 228, Bertin discloses (col. 11, lines 44-67) a method of setting up a connection between the origin and the destination whereby a path is determined for the connection (communication devices each able to determine a path to be followed by each information to be transmitted, when a connection associated with a path is required, in order to effect a transmission of information to a destination communication device). A bandwidth reservation process uses the connection requests to reserve bandwidth on each of the links of the

path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node (sending a message requesting establishment of a connection to each communication device on the path). Bandwidth reservation replies from transit nodes and end node generate either a call acceptance or a call reject. A link metric update process updates, in case of a call acceptance, the modified link metrics (updating the load table). This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast algorithm. This means that all nodes, whether resided within the path of communications or not resided within the path of communications, received the broadcast information (broadcasting a message containing information on the establishment of the connection on reception of a connection acceptance message coming from a destination communication device).

With respect to claims 230-231, 233, and 235-236, Bertin discloses (col. 11, lines 44-67) that Bandwidth reservation replies from transit nodes and end node generate either a call acceptance or a call reject (an operation performed by the destination communication device for a request to establish a connection, of determining whether establishment of a connection is possible and if a connection is possible, of transmitting information on an acceptance of the connection to the source communication device).

With respect to claim 232, Bertin discloses (col. 11, lines 44-67) that a link metric update process updates, in case of a call acceptance, the modified link metrics (updating the load table). This information is sent through the Control Spanning Tree to the Topology Database of each

node in the network by means of a broadcast algorithm. This means that all nodes, whether resided within the path of communications or not resided within the path of communications, received the broadcast information (an operation performed by a communication device that is not situated on the path associated with the connection currently being established, of storing information representing the connection when information on the establishment of the connection is received).

With respect to claims 183 and 237, Bertin discloses in Fig. 1, a response received from the end node travels on a different path from the connection request message (an operation performed by the destination communication device, of choosing a path independently of a path associated with the connection currently being established in order to cause the information representing a connection acceptance to be transmitted).

With respect to claims 243 and 244, Bertin discloses in Fig. 1, a call setup procedure for setting up a connection between the origin and the end node, therefore, in order to carry such procedure, the nodes of the network must store instructions, and whereby such instructions are implemented within the nodes to carry out the setup procedure (computer program can be loaded into apparatus and comprising sequences of instructions or portions of software code for implementing the communication method for communicating in a network).

Allowable Subject Matter

8. Claims 8-10, 20-22, and 207 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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